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System Usability Scale in Information System Application Development Using Systematic Mapping Study

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Abstrak

The System Usability Scale (SUS) is a widely used method for evaluating usability due to its simplicity and reliability. However, no study has systematically mapped the application of SUS in information system applications. This research aims to conduct a Systematic Mapping Study (SMS) to analyze the use of SUS in 30 international journals indexed in SpringerLink from 2021 to 2025, focusing on publication trends, application domains, the number and types of respondents, respondent criteria, and SUS score results. After the screening process, 28 relevant articles were identified, of which 14 directly employed SUS. The mapping results indicate that the technology domain dominates the application of SUS, with most respondents being general application users, while publication trends show fluctuations with a peak in 2025. These findings are consistent with the research objective, namely to provide a comprehensive overview of SUS usage patterns. The novelty of this study lies in mapping respondent characteristics and variations in SUS scores within the context of information system applications, which has not been systematically mapped before. The results are expected to serve as both an academic reference and practical guidance for developers and researchers in improving system design based on user experience.

Keywords: System Evaluation, Systematic Mapping Study, System Usability Scale, User Experience

1. INTRODUCTION

The System Usability Scale (SUS) is a simple, reliable, and valid evaluation instrument that has been widely applied across various information system applications since its introduction in 1986 [20]. Nevertheless, most studies have employed SUS merely as a standalone evaluation method without mapping publication trends, application domains, respondent characteristics, or SUS score interpretations in a comprehensive manner. Therefore, this study aims to conduct a Systematic Mapping Study (SMS) on the application of SUS in information systems, analyzing publication trends, application domains, respondent characteristics, and SUS score interpretations for the period 2021-2025.

Several international studies highlight the importance of mapping SUS usage. Hyzy et al. [15] conducted a meta-analysis of 117 SUS scores from 114 digital health applications, reporting significant variations in the results. Nagy et al. [24] applied SUS to augmented reality-based industrial maintenance applications, revealing limitations in user experience. Kurniawan et al. [17] integrated SUS with a user-centered design approach to develop a knowledge management system in higher education. Hinggi et al. [19] further emphasized the relevance of SUS by confirming that benchmark SUS scores remain valid for assessing the usability of digital health applications. In addition, a recent systematic review on the use of augmented reality in industry identified current trends, challenges, and the need for consistent usability evaluation [10].

However, to date, no study has systematically mapped the application of SUS in the development of information systems. Most existing research stops at reporting SUS scores without analyzing broader patterns, resulting in partial contributions that are difficult to use as comprehensive references. In fact, a systematic mapping is essential to identify global research trends, determine which application domains are frequently or rarel evaluated using SUS, classify respondent characteristics that affect the validity of results, and uncover unexplored research gaps. This absence of systematic evidence underscores the urgency of

conducting an SMS so that the use of SUS in information systems can be structured into a clear body of knowledge, prevent research duplication, and provide future research directions.

2. RESEARCH METHOD

Qualitative methods were used in this research. This method is an SMS approach [1]. The reason why research should be conducted using this method is that its benefits include summarizing existing evidence on the topic under study, finding gaps in research, providing recommendations for things that can be done in future research, and providing a background for placing new research [37]. To clarify the stages of the research, the methodology used can be described in the form of a flowchart in Figure 1.

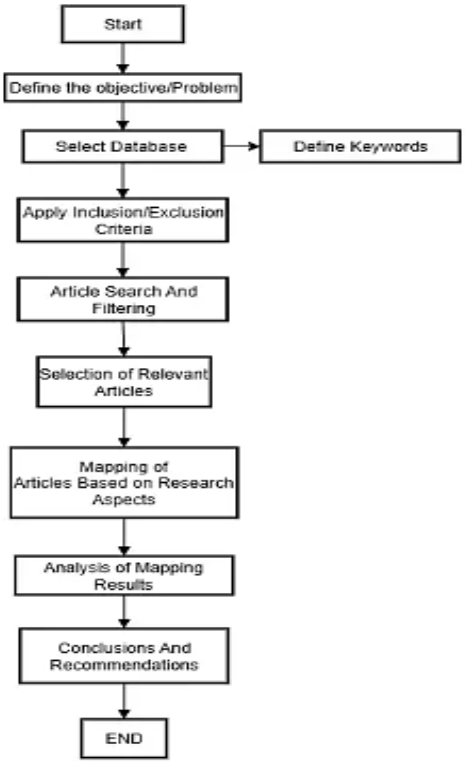

Figure 1. Flowchart Methode

The research began by setting the objectives, then selecting an international database (e.g. SpringerLink) and designing relevant keywords. Then, a search was conducted utilizing criteria filters (year, language, document type). Articles found were filtered based on inclusion (English language, peer-reviewed, SUS-focused) and exclusion (non-articles, irrelevant literature, multiple copies) criteria. Once relevant articles were found, a mapping process was performed by categorizing based on aspects: publication trends, SUS applicability, application fields, respondent profiles, and SUS scores obtained. The results of the mapping were then analyzed to identify patterns, trends, and research gaps. Finally, the research findings were summarized in conclusions as well as suggestions for future developments [16].

2.1. Article Survey

Since SMS requires accurate studies, the process of searching and analyzing data must be done appropriately. Therefore, this section describes the article search process, which includes selecting data sources, using search criteria, and determining inclusion and exclusion criteria.

Table 1. Criteria for Searching Publication Articles

Data Source	Search Criteria
SpringerLink	Discipline: Computer Science Subdiscipline: Software Engineering Content Type: Journal Document Type: Article Language: English Publication year: 2021-2025

The selection of criteria in Table 1 is based on the research need to obtain relevant and up-to-date articles. SpringerLink was chosen because it is one of the most trusted databases offering high-quality scientific publications. The concentration on the Computer Science discipline, with a focus on the Software Engineering branch, suits the research theme, while the limitation to English journal articles ensures accuracy and readability. "The period 2021-2025 was set so that the information used remains relevant and current.

Each criterion is taken so that the research is current, relevant to the domain of information technology and software, and comes from sources that are guaranteed to be credible. In this way, the SUS analysis is truly drawn from reliable articles and supports the research objectives academically [31].

The survey was conducted on Springer Link electronic database journals for articles published from 2021 to 2025. Based on aspects of the search criteria in Table 1, it can be determined that 30 international journals were used as survey sources, as follows:

1. Education and Information Technologies (EIT)
2. Neural Computing and Applications (NAC)
3. User Modeling and User-Adapted Interaction (UMUAI)
4. Journal of Ambient Intelligence and Humanized Computing (JAIHC)
5. Soft Computing (SC)
6. Universal Access in the Information Society (UAIS)
7. The Journal of Supercomputing (TJS)
8. Cluster Computing (CC)
9. International Journal of System Assurance Engineering and Management (IJSAEM)
10. SN Computer Science (SNCS)
11. International Journal of Information Technology (IJIT)
12. Computational Intelligence, Data Analytics and Applications (ICCIDA)
13. Information and Communication Technology and Applications(ICTA)
14. Computing (COMP)
15. Mobile Networks and Applications (MONET)
16. Information Systems Frontiers (ISF)
17. SN Computer Science (SNCS)
18. Empirical Software Engineering (ESE)
19. Journal of Big Data (JBD)
20. Neural Computing and Applications (NCA)
21. Social Network Analysis and Mining (SNAM)
22. International Journal of System Assurance Engineering and Management Publishing model (IJSAEMPM)
23. International Journal on Digital Libraries (IJDL)
24. Journal of Grid Computing (JGC)
25. Software Quality Journal (SQJ)
26. Information Security an Privacy Research (ISPR)
27. Human-Computer Interaction: Users and Applications (HCI-UA)
28. HCI Internasional (HCI-I)
29. Knowledge and Information Systems (KIS)
30. International Journal of Computer Assited Radiology and Sugery (IJCARS)

Figure 2 explains that the survey of 30 international journals published in the Springer Link *electronic* database has a different number of articles. There are articles that contain the keyword SUS, but some do not contain keywords. The survey of the 30 international journals, 5 of which could not be searched because it was a book. The three journals are Computational Intelligence, Data Analytics and Applications, Information and Communication Technology and Applications, HCI International.

This research was conducted by adopting the same process from previous research [11]. The SMS process has several steps, including searching in electronic databases, filtering by applying keywords, and reviewing articles that are relevant to the keywords. Each step of the process has results that are presented in the form of systematic mapping.

In Table 2, inclusion and exclusion criteria were set to ensure that the articles analyzed specifically addressed the SUS, so that the mapping results fully focused on usability evaluation using the SUS method which is the subject of this study. The selection of English-language and peer-reviewed articles ensured scientific quality and wide readership among the global academic community. Exclusion of works such as dissertations, theses, book sections, product descriptions, and unofficial literature was done to avoid sources that lack standardization or have not undergone a rigorous review process [40].

In addition, the removal of duplicate articles and those not focused on SUS reduced bias and redundancy in order for the analysis to create a precise, relevant, and solid reference research map for the development of user experience-oriented information system applications. The search results identified 28

published articles that included the specified keywords in accordance with the objectives and results of this study, which emphasized the importance of systematic mapping in the latest period 2021-2025 [13].

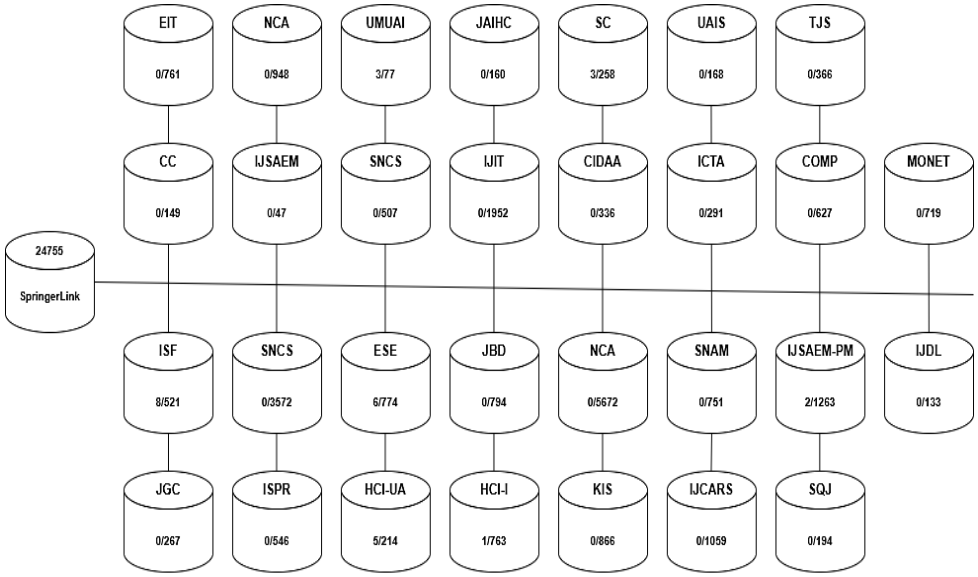

Figure 2. Number of Articles Surveyed from 30 Springer Link Journals

Table 2. Inclusion and Exclusion Criteria

Inclusion	Exclusion
1. Research that focuses on SUS research 2. English language 3. Articles only 4. Papers that have been peer reviewed	1. Papers that do not discuss SUS 2. Languages other than English 3. Dissertations, theses, book parts, product descriptions, presentations, work reports, trade literature, editorial notes, obscure literature 4. Papers that have not been peer reviewed 5. Duplicate research

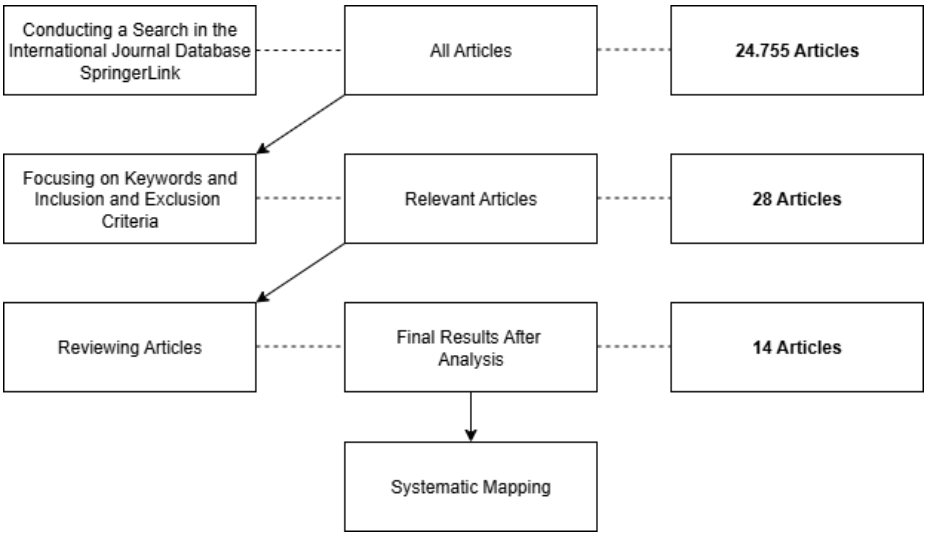

Figure 3. SMS Research Stage

Figure 3 illustrates the stages of the SMS methodology in this research, which refers to a previous study [12]. The process began with an initial search in the SpringerLink database using the keywords "System Usability Scale", resulting in 24,755 articles from 30 international journals. The articles were then filtered based on inclusion and exclusion criteria, resulting in 28 relevant articles.

Next, the articles were analyzed and mapped based on seven main aspects: annual publication trends, SUS application, system application fields, number and type of respondents, respondent selection criteria, and SUS scores [17]. This stage aims to recognize the pattern of SUS usage in information

system development while identifying research gaps for further studies. Thus, Figure 2 shows the entire methodological process systematically, from data collection to mapping analysis that supports the research objectives.

2.2. Article Mapping

A total of 28 relevant articles from the survey results were then mapped based on 7 aspects presented in Table 3.

Table 3. Aspects of Publication Article Mapping

No	Classification Aspect
1	Publication trend per year
2	SUS for system testing
3	Field of application of the system
4	Number of categories of respondents who tested the system
5	Respondent type
6	Respondent criteria
7	SUS score

Table 3 presents seven aspects of article mapping that are of analytical interest in this study, namely publication trends per year, application of SUS in system testing, field of system application, number and type of respondents, criteria for determining respondents, and SUS scores obtained. These aspects were chosen to comprehensively illustrate how the SUS method is used in various contexts and to identify patterns, trends, and research gaps in the field of usability evaluation of information systems [36]. This approach strengthens the validity of the results and provides a clear direction for the development of future studies described in Figure 3.

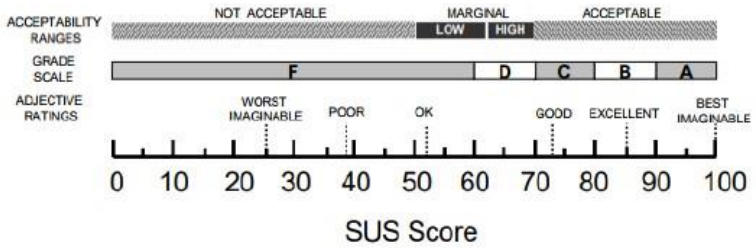

Figure 4. SUS Score Interpretation

SUS assessment criteria based on Figure 4 are divided into three categories, namely, acceptability ranges, grade scale, and adjective rating which are distinguished based on SUS scores [14]. The acceptability ranges category consists of not acceptable, marginal, and acceptable. The grade scale category consists of A, B, C, D, and F. While the adjective rating category consists of worst imaginable, poor, ok, good, excellent, best imaginable. Determination of the final SUS score is then carried out based on the normalization of the SUS scale [15] which can be seen in Table 4.

Table 4. SUS Value Interpretation

SUS Score	Value	Objective	Percentile
84,1 - 100	A+	*Best Imaginable*	96 – 100
72,6 – 84,0	B- – A	*Excellent*	65 - 95
62,7 – 72,5	C- – C+	*Good*	35 - 64
51,7 – 62,6	D	*OK*	15 - 59
25,1 – 51,6	F	*Poor*	2 - 14
0 - 25	F	*Awful*	0 – 1,9

3. RESULT AND DISCUSSION

The mapping of articles in this research is divided into seven subchapters, namely first based on publication trends that apply SUS, second the distribution of articles based on the application of SUS for system testing, third the distribution of articles based on the field of application of the system, fourth the mapping of articles based on the number of respondents who tested the system, fifth the mapping of articles based on the type of respondent, sixth the mapping of articles based on the criteria for determining respondents, lastly the mapping of articles based on SUS values, for more details will be explained as follows.

3.1. Trends in Publications that Apply SUS

Based on the explanation from Figure 5, it can be concluded that in 2021 and 2024 research that applies the SUS method is quite low, based on the last 5 years 2021 and 2024 are in the bottom position. In the next position there are 2022 and 2023, money which has increased slightly from the previous year, but in 2024 it has decreased. The next year, 2025, experienced a fairly significant increase from the previous year, this shows that research that applies SUS sometimes experiences an increase and decrease.

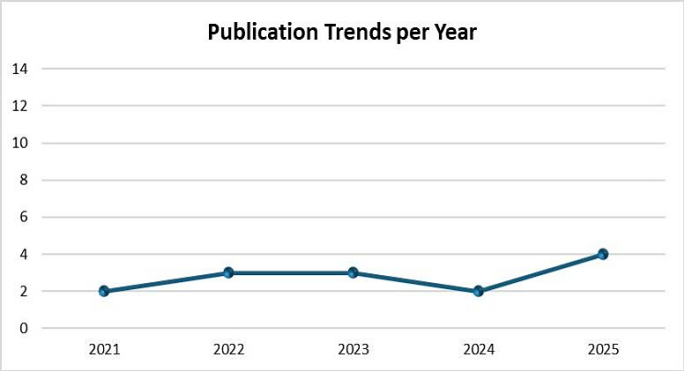

Figure 5. Mapping Publication Trends that Apply SUS Using a Line Graph

3.2. Article Distribution Based on SUS Aplication for System Testing

In Figure 6 we can see that the pie chart shows the same results 50%, of the 28 articles that show only 14 articles that use the SUS method in testing a system, while the other 14 articles are only used as references in research. Therefore, the analysis stage of this research will only discuss articles that use SUS as a method of testing a system totaling 14 articles.

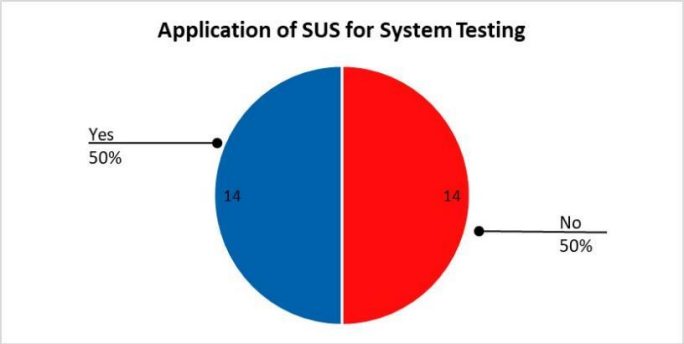

Figure 6. Mapping the Application of SUS for System Testing Using Circle Diagram

3.3. Distribution of Articles Based on Field of System Application

Based on the discussion in subchapter 3.2, namely the Application of SUS for System Testing Using a Circle Diagram, at the next stage of article mapping only discusses 14 articles related to the application of the SUS method.

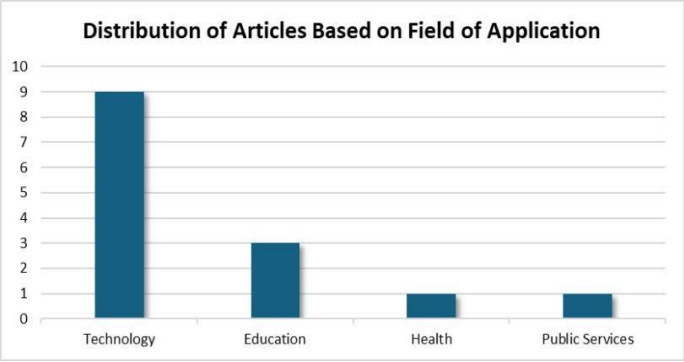

Figure 7. Mapping Article Distribution based on Field of Application System using Stacked Bar Graph

Figure 7 shows that the SUS method is used in several fields including, Technology field occupies the first position with points that are far different from the others. In the second position there is the field of education and in the third and fourth positions which have the same points occupied by the fields of health and public services.

3.4. Mapping Articles Based on the Number of Respondents Who Tested The System

Based on the mapping of 14 articles that discuss the number of respondents who test the system using the SUS method, Table 5 shows that 4 articles involve 51 to 89 respondents and also 201 and above. As for 3 articles involving 11 to 50 respondents. 2 articles involve 90 to 150 respondents, and for 1 article involving between 1 to 10 and also 151 to 200 respondents.

Table 5. Mapping of Articles Based on the Number of Respondents Surveyed Using SUS

Number of respondents surveyed using SUS	Number of Articles	Related articles
1-10	1	[12]
11-50	3	[18], [34], [40]
51-89	4	[4], [29], [32], [37]
90-150	2	[3], [11]
151-200	1	[43]
>201	4	[5], [13], [15], [38]

3.5. Mapping Articles Based on the Number of Respondents Who Tasted the System

Table 6 shows the mapping based on the types of respondents involved in testing a system using sus, which totaled 14 articles. In the first position, by general application, users are involved in 7 articles. In the second position there are students or students and also experts or experts where 4 articles are involved. Patients and secondary studies or meta-analysis are in the third position which is involved in 3 articles, while in the last position there are lecturers or academic staff who only involve 1 article. However, there are 9 articles where the type of respondent cannot be recognized so they are identified as unknown.

Table 6. Mapping Articles by Respondent Type

Respondent Type	Number of Articles	Related articles
College student/student	4	[11], [34], [40] [41]
Lecture/Academic Staff	1	[18]
General Application User	7	[4], [6], [23], [28], [29], [32], [33]
Patient	3	[3], [15], [24]
Expert	4	[12], [18], [39], [43]
Secondary Study/Meta-Analysis	3	[13], [36], [25]
Unknown	9	[5], [7], [8], [9], [19], [25], [26], [37], [38]

3.6. Mapping Articles Based on Respondent Closure Criteria

Determining respondent criteria is one of the important aspects in the mapping process of this study, which aims to understand how to establish these criteria. Table 7 shows the results of article mapping based on the respondent criteria used in testing a system using the SUS method.

Table 7. Mapping articles based on respondent determination criteria

Respondent Criteria	Number of Articles	Related articles
Direct users of the application	12	[4], [6], [23], [28], [29], [32], [33], [34], [36], [40], [41], [42]
Expert/ evaluator/ UX Professional	3	[12], [18], [43]
Combination of users and expert	2	[14], [39]
Not Specified (only ”users”)	9	[3], [5], [7], [8], [9], [19], [24], [26], [38]
Meta-Analysis or secondary study	4	[11], [13], [15], [25]

Based on the exposure results from Table 7. Direct users of the application are in the top position used in 12 articles. It is not clearly mentioned, for the user is in the second position used in 9 articles. Meta-analysis or secondary studies are used in 4 articles. experts or evaluators or ux or professionals are only used in 3 articles. In the last position, the combination of users and experts was only used in 2 articles. The

previous explanation shows that to determine the criteria, respondents should be selected based on users, especially application users.

3.7. Article Mapping Based on SUS Value

The results of the calculation of the final SUS value are one measure of the success of the software being tested. Therefore, in this study, the surveyed articles are also mapped based on the final SUS value obtained from each test. Can be seen in Table 8

Table 8. Results of Article Mapping Based on SUS Final Score

Respondent Criteria	Number of Articles	Related Articles
Best	10	[4], [6], [23], [28], [29], [32], [33], [34], [36], [40]
Imaginable	3	[12], [18], [43]
Excellent	2	[14], [39]
Good	9	[3], [5], [7], [8], [9], [19], [24], [26], [38]
Poor	4	[11], [25], [27], [41]
Awful	2	[13], [15]

The results of this study show that the use of SUS is still relatively limited, but its application spans various different fields. This indicates that even though the number of articles using SUS is small (14 articles out of 24,755 publications), the flexibility of SUS as an evaluation instrument remains strong. The distribution of scores ranging from the best imaginable to awful category illustrates that SUS is capable of capturing usability quality across a broad spectrum. This " " condition also shows that there are systems that have been well-designed, but there are also systems that still require significant development.

The findings of this study are consistent with the results of international studies. For example, research published by JMIR mHealth and uHealth (2022) shows that digital health applications receive an average SUS score between 68 and 76, which falls into the high usability category. These results show a global trend that the majority of systems evaluated with SUS tend to produce good scores, similar to the dominance of high scores in this study [21].

Furthermore, research in Indonesia by Adani et al. (2025) on the e-Polvot system found that the usability results were in the Good category. This study emphasizes that the SUS function is not only to measure usability but also as a guideline for system improvement. These results are parallel to this study, which found variations in scores, including low categories, which can be used as a basis for developers to make further improvements [22].

Additionally, the psychometric evaluation of SUS (2025) study confirms that this instrument has high reliability and can be adapted across cultures, including in developing countries such as Indonesia. This further strengthens the claim that SUS is relevant for use in research in various contexts and with different respondent populations [30].In fact, another study evaluating voice user interfaces (VUI) shows that SUS is valid for application in voice-based interaction systems, expanding the scope of use of this instrument beyond screen-based systems [1].

The implications of these results are quite significant. First, this study confirms that the use of SUS in information systems and digital applications still has room for expansion, both in terms of the number of studies and the diversity of fields. Second, the variation in scores indicates that SUS can be used as an effective diagnostic tool to identify the strengths and weaknesses of a system. Third, the dominance of respondents from among students and general users opens up opportunities for further research involving professional respondents or users with special needs, so that the evaluation results are more representative of the needs of the industrial world and public services.

4. CONCLUSION

This study presents a systematic mapping of the use of the SUS in articles published on SpringerLink between 2021 and 2025. Of the total 24,755 articles identified, only 14 articles explicitly used SUS. These results indicate that although the use of SUS is still limited quantitatively, this instrument remains important as a cross-domain usability evaluation tool. The novelty of this study lies in mapping the characteristics of respondents and the variation in usability scores obtained, thereby providing a more detailed understanding of the patterns of SUS application in current research.

The academic implication of this study is that SUS is proven to be relevant and reliable in evaluating usability, in line with international studies that show the dominance of high scores in various digital applications. Practically, this study provides insight for system developers that SUS scores, whether high or low, can be used as a basis for decision-making for further improvement and development.

As a recommendation, further research needs to integrate SUS with other evaluation instruments such as the User Experience Questionnaire (UEQ) or Heuristic Evaluation (HE) to obtain a more comprehensive picture of system quality. Additionally, expanding the database to include other sources, such as Scopus or IEEE, can enhance the representativeness of the findings. Ultimately, future research should involve more professional respondents to ensure that usability evaluation results align more closely with the specific needs of the industry and the broader community.

REFERENSI

[1] A. M. Deshmukh and R. Chalmeta, "Validation of system usability scale as a usability metric to evaluate voice user interfaces," *PeerJ Comput Sci*, vol. 10, 2024, doi: 10.7717/peerj-cs.1918.

[2] A. Nagy, Y. Spyridis, G. J. Mills, and V. Argyriou, "User Experience Evaluation of AR Assisted Industrial Maintenance and Support Applications," *arXiv preprint*, Oct. 2024, [Online]. Available: https://arxiv.org/abs/2410.17348

[3] AlGhannam, B. A., Al-Zubidi, R. T., Albqami, M., & Aldossary, A. (2018). Towards a standard Arabic System Usability Scale: Psychometric evaluation using communication-disorder app. International Journal of Human–Computer Interaction, 34(9), 799–804. https://doi.org/10.1080/10447318.2017.1417843

[4] Alam, R. G. G., & Kurniasih, P. R. (2024). Use of the System Usability Scale (SUS) Method in the SIMAMURAT Application. Journal Scientific and Applied Informatics (JSAI), 7(2), 14-26 https://doi.org/10.36085/jsai.v7i2.6209

[5] Andriyani, R., & Sari, A. O. (2023). Penerapan Metode System Usability Scale Untuk Evaluasi Sistem Informasi E-Procurement. JoMMiT : Jurnal Multi Media Dan IT, 7(2), 064–069. https://doi.org/10.46961/jommit.v7i2.902

[6] Apriyanthi, N. P. E., Mentayani, N. P. A., Gunawan, I. M. A., & Indrawan, G. (2024). Evaluasi Usability Dengan Pendekatan System Usability Scale (SUS) Pada Aplikasi TMHub. Jurnal Teknologi Komputer dan Sistem Informasi (JTKSI), 7(1), 23-29 https://doi.org/10.56327/jtksi.v7i1.1600

[7] Bangor, A., Kortum, P., & Miller, J. (2008). Determining what individual SUS scores mean: Adding an adjective rating scale. Journal of Usability Studies, 4(3), 114–123.

[8] Bilung, M., Maharani, S., & Khairina, D. M. (2023). Analisis Kepuasan Pengguna Sistem Informasi Terpadu Layanan Program Studi (SIPLO) Menggunakan System Usability Scale (SUS). Adopsi Teknologi Dan Sistem Informasi (ATASI), 2(2), 89–97. https://doi.org/10.30872/atasi.v2i2.387

[9] Borsci, S., Federici, S., & Lauriola, M. (2009). On the dimensionality of the System Usability Scale: A test of alternative measurement models. Cognitive Processing, 10(3), 193–197. https://doi.org/10.1007/s10339-009-0345-z

[10] C. R. Uva, L. Tori, and G. Manghisi, "Augmented Reality in Industry: A Systematic Review of Recent Applications," *Electronics*, vol. 13, no. 6, p. 1147, 2025, doi: 10.3390/electronics13061147.

[11] Dutta, R., Mantri, A., & Singh, G. (2022). Evaluating system usability of mobile augmented reality application for teaching Karnaugh-Maps. Smart Learning Environments, 9(1), 6. https://doi.org/10.1186/s40561-022-00189-8

[12] Fiandhika, M. F., & Kelana, B. (2024). System Usability Scale Validation from the Expert Perspective. E3S Web of Conferences, 483, 03008. https://doi.org/10.1051/e3sconf/202448303008

[13] Fuller Tyszkiewicz, M., Richardson, B., Klein, B., Skouteris, H., Christensen, H., Austin, D., & Hyzy, M. (2022). System usability scale scores for digital health apps: Meta analysis (preprint). JMIR Preprints. https://doi.org/10.2196/preprints.37290

[14] Grier, R. A., Bangor, A., Kortum, P., & Peres, S. C. (2013). The System Usability Scale: Beyond Standard Usability Testing. Proceedings of the Human Factors and Ergonomics Society Annual Meeting, 57(1), 546–550.

[15] Hyzy, M., Bond, R., Mulvenna, M., Bai, L., Dix, A., Leigh, S., & Hunt, S. (2022). System Usability Scale Benchmarking for Digital Health Apps: Meta analysis. JMIR mHealth and uHealth, 10(8), e37290. https://doi.org/10.2196/37290

[16] K. N. Sari and Y. S. Nugroho, *Systematic Mapping Study Terhadap Penerapan System Usability Scale Untuk Evaluasi Tingkat Kegunaan Perangkat Lunak*, Serima-CE, vol. 1, no. 1, pp. –, 2023. [Online]. Available: https://jurnal.unissula.ac.id/index.php/serima/article/download/30665/9437

[17] Kiki Nur Indah Sari, Yusuf Sulistyo Nugroho. "Systematic Mapping Study Terhadap Penerapan System Usability Scale Untuk Evaluasi Tingkat Kegunaan Perangkat Lunak." Seminar Riset Mahasiswa – Computer & Electrical (SERIMA-CE), Vol. 1, No. 1, 2023

[18] Kurniawan, S. S., Maharani, N. Z., Sensuse, D., & Purwaningsih, E. H. (2025). Applying User-Centered Design and System Usability Scale to Design Knowledge Management System for Exam Proctors in Higher Education. Scientific Journal of Informatics, 11(4), 1043–1056. https://doi.org/10.15294/sji.v11i4.9919

[19] Lewis, J. R., & Sauro, J. (2009). The Factor Structure of the System Usability Scale (pp. 94–103).

https://doi.org/10.1007/978-3-642-02806-912
[20] M. Hinggi, R. Bond, M. Mulvenna, A. Dix, and S. Hunt, "System Usability Scale Benchmarking for Digital Health Apps: A Meta-analysis," *Journal of Medical Internet Research*, vol. 24, no. 8, p. e37290, Aug. 2022, doi: 10.2196/37290.
[21] M. Hyzy, R. Bond, M. Mulvenna, L. Bai, A. Dix, S. Leigh, and S. Hunt, "System Usability Scale Benchmarking for Digital Health Apps: Meta-analysis," *JMIR mHealth and uHealth*, vol. 10, no. 8, p. e37290, 2022, doi: 10.2196/37290.
[22] M. K. Anam, S. Susanti, N. Nurjayadi, F. Zoromi, and A. K. Sari, "Evaluation of An Existing System Using The System Usability Scale (SUS) as A Guideline for System Improvement," *JURNAL TEKNIK INFORMATIKA*, vol. 18, no. 1, pp. 122–132, Apr. 2025, doi: 10.15408/jti.v18i1.40766.
[23] Maulana, A. E. (2024b). Evaluasi Aplikasi DOI by RJI pada Aspek Usability dan User Experiance Menggunakan Metode System Usability Scale (SUS) dan User Experience Questionnaire (UEQ). Explorer, 4(2), 106–114. https://doi.org/10.47065/explorer.v4i2.1478
[24] Mulia Sulistiyono, H. D. Prajoto, & Bernadhed (2023). Evaluating the User-Friendliness of a Mobile Application for Outpatient Food Monitoring: A System Usability Scale (SUS) Approach. Jurnal Riset Informatika, 6(1), 29–36. https://doi.org/10.34288/jri.v6i1.264
[25] Nagy, A., Spyridis, Y., Mills, G. J., & Argyriou, V. (2024). User Experience Evaluation of AR Assisted Industrial Maintenance and Support Applications. arXiv preprint, Oct 22, 2024.
[26] Nur Indah Sari, K., & Sulistyo Nugroho, Y. (2023). Systematic Mapping Study Terhadap Penerapan System Usability Scale Untuk Evaluasi Tingkat Kegunaan Perangkat Lunak. In Seminar Riset Mahasiswa-Computer & Electrical (SERIMA-CE (Vol. 1, Issue 1).
[27] Ozzi Suria. "A Statistical Analysis of System Usability Scale (SUS) Evaluations in Online Learning Platform." *Journal of Information Systems and Informatics*, Vol. 6, No. 2, June 2024, doi: 10.51519/journalisi.v6i2.750
[28] Parera, G., & Darwis, M. (2023). Usability of JKN Mobile Application Using System Usability Scale (SUS) Method. bit Tech, 5(3), 138–145. https://doi.org/10.32877/bt.v5i3.691
[29] Putra, R. R., Yasirandi, R., & Matradipti, M. M. Q. (2024). Evaluation of Travel App's Usability Using the System Usability Scale Method. Scientific Journal of Informatics, 11(2), 439–450. https://doi.org/10.15294/sji.v11i2.4509
[30] Q. Khan *et al.*, "Psychometric evaluation of the System Usability Scale in the context of a childrearing app co-designed for low- and middle-income countries," *Digit Health*, vol. 11, Jan. 2025, doi: 10.1177/20552076251335413.
[31] R. Sousa and K. Dunn Lopez, "Towards Usable E-Health: A Systematic Review of Usability Questionnaires," *Applied Clinical Informatics*, vol. 8, no. 2, pp. 470–490, 2017. [Online]. Available: https://www.ncbi.nlm.nih.gov/articles/PMC6241759/
[32] Rahmawati, S. D., & Prasetiyo, B. (2024). Application of Lean UX and System Usability Scale (SUS) Methods in Redesigning User Interface and User Experience on Adella Hospital Online Registration Website. Journal of Advances in Information Systems and Technology, 6(2), 41 (Article 2430).
[33] Revi Raka Putra, R., Yasirandi, R., & Matradipti, M. M. Q. (2024). Evaluation of Travel App's Usability Using the System Usability Scale Method. Scientific Journal of Informatics, 11(2), 439–450. https://doi.org/10.15294/sji.v11i2.4509
[34] Rowi, S., & Achmadi, F. (2024). Usability Test Using the System Usability Scale in the Industrial Engineering Laboratory Universitas X Indonesia. Jurnal Teknik Industri UMC, 4(1), 39–46. https://doi.org/10.33479/sakti.v4i1.89
[35] S. S. Kurniawan, N. Z. Maharani, D. Sensuse, and E. H. Purwaningsih, "Applying User-Centered Design and System Usability Scale to Design Knowledge Management System for Exam Proctors in Higher Education," *Scientific Journal of Informatics*, vol. 11, no. 4, pp. 1043–1056, 2025, doi: 10.15294/sji.v11i4.9919.
[36] S. Almasi, K. Bahaadinbeigy, H. Ahmadi, and R. Rabiei, "Usability Evaluation of Dashboards: A Systematic Literature Review of Tools," *BioMed Research International*, vol. 2023, Article ID 9990933, 2023. [Online]. Available: https://www.ncbi.nlm.nih.gov/articles/PMC9977530/
[37] Sari, M. A., & Tania, K. D. (2021). Usability Evaluation in Knowledge Management System (KMS) Using System Usability Scale (SUS) Method. International Journal of Informatics and Computer Science (IJICS), 6(3), 119–125. https://doi.org/10.30865/ijics.v6i3.4244
[38] Sauro, J., & Lewis, J. R. (2018). The System Usability Scale: Past, Present, and Future. International Journal of Human–Computer Interaction, 34(7), 577–590. https://doi.org/10.1080/10447318.2018.1455307
[39] Silvia & Rahayu Amalia. (2025). Implementation of Usability Scale System in TikTok Usability Evaluation. Journal Scientific and Applied Informatics (JSAI), 8(1), 1 10. https://doi.org/10.36085/jsai.v8i1.7720
[40] Suharsih, R., Febriani, R., & Triputra, S. (2024). Usability of Jawara Sains Mobile Learning

Application Using System Usability Scale (SUS). Jurnal Online Informatika (JOIN), 6(1), – 75.45 (skor SUS, B grade). https://doi.org/10.15575/join.v6i1.700

[41] Setiawan, D., & Wicaksono, S. L. (2020). Evaluasi Usability Google Classroom Menggunakan System Usability Scale. Walisongo Journal of Information Technology, 2(1), 71. https://doi.org/10.21580/wjit.2020.2.1.5792

[42] Setiyawati, N., & Bangkalang, D. H. (2022). The Comparison of Evaluation on User Experience and Usability of Mobile Banking Applications Using User Experience Questionnaire and System Usability Scale. Proceedings of International Academic Symposium of Social Science, 82(1), 87. https://doi.org/10.3390/proceedings2022082087

[43] Thamilarasan, Y., Ikram, R. R. R., Osman, M., Salahuddin, L., Bujeri, W. Y. W., & Kanchymalay, K. (2023). Enhanced System Usability Scale using the Software Quality Standard Approach. Engineering, Technology & Applied Science Research, 13(5), 11779–11784. https://doi.org/10.48084/etasr.5971